CHAPTER 15

CONTROL MOTIVATION, DEPRESSION, AND COUNTERFACTUAL THOUGHT

KEITH D. MARKMAN AND GIFFORD WEARY

INTRODUCTION

The notion that there exists a fundamental need to exert control over or to influence one’s environment has enjoyed a long history in psychology (e.g., DeCharms, 1968; Heider, 1958) and has stimulated considerable theoretical work. Such a need has been characterized by theorists at multiple levels of analysis. Control motivation, for example, has been characterized broadly in terms of proactive (White, 1959) or reactive (e.g., Abramson, Seligman, & Teasdale, 1978; Brehm, 1966; Brehm & Brehm, 1981) strivings for control over general or specific (Brehm & Brehm, 1981) and central or peripheral outcomes (Thompson, 1993). Additionally, various types of control strategies used to gain or maintain a sense of personal control have been proposed (e.g., Averill, 1973; Heckhausen & Schulz, 1995; Rothbaum, Weisz, & Snyder, 1982; Thompson, 1981). Modes of control, for instance, have been categorized as either primary or secon-
dary. Primary strategies involve direct action undertaken to produce desirable and avoid undesirable outcomes in the external world, whereas secondary strategies employ primarily cognitive processes undertaken to produce a change within the person. Recently, Heckhausen and Schulz (1995) have further delineated these primary and secondary forms of control according to whether they are based on veridical or illusory causal understandings of the world and whether they are functional or dysfunctional. While most control theorists view primary control as preferable to secondary control, the latter is viewed as critical in the process of adaptation to control failures and in the promotion of future primary control attempts.

However conceptualized and achieved, there can be little doubt that a need for control plays a critical role in a variety of motivational, behavioral, and emotional processes (Weary, Gleicher, & Marsh, 1993). Threats to or decrements in individuals’ beliefs that they can achieve desired outcomes have been associated with psychological reactance, motivational impairments, adaptive and maladaptive coping behaviors, depressed and anxious affect, metacognitive feelings of causal uncertainty, and immunological responses to stress.

In this chapter, we focus on a particular consequence of generalized control concerns for a secondary control strategy. More specifically, we examine the role of chronic control concerns in individuals’ attempts to render their social environments more understandable, predictable, and controllable. Because chronic control concerns and resultant levels of chronic, heightened control motivation have been shown to be associated with mild and moderate levels of depressive symptomatology, we examine the sense-making activities of individuals suffering from subclinical levels of depression.

While other investigators have examined the attributional inferences that relatively depressed and nondepressed individuals typically employ in their quest for enhanced understanding, prediction, and control, here we focus on an alternative cognitive process. Specifically, in two studies we focus on the manner in which relatively depressed and nondepressed people mentally “undo” or engage in counterfactual thinking (Kahneman & Tversky, 1982) about a past negative event. We will argue that the control concerns characteristic of depressed individuals are important determinants of the content of their counterfactual thoughts. We also will present evidence suggesting that these counterfactuals have important implications for the retrospective control perceptions, of and control restoration behaviors likely to be employed by, depressed individuals. At the same time, however, we will suggest that negative affect and self-blame can be the undesirable by-products of cognitions directed toward the attainment and reestablishment of control perceptions.

CONTROL BELIEFS, DI
INFERENCE

Over the past fifteen years increasingly interested in exploring the cognitive processes (for a recent review, see Kirsch, 1990; Beck, 1976) for critical and important ends to schema and attributional processes. Of particular importance is the role of depressed and expectations of response-outcome inferences. We will now turn to two lines of work that have addressed these issues.

The first line of work focusing on control expectations concerns depressive attributional theory. We have discussed consistency in the attributional theory for their positive outcomes. According to the theory, nondepressed individuals tend to view their outcomes as stable, understandable, and controllable (e.g., see Anderson, 1985; Sweeney, 1994). These attributional perceptions correspond to the conceptualization of self-blame attributions and recently refined by Anderson, Marsh, and Edwards (1993).

The second body of relevant research in psychopathology comes from the work of Weary and Marsh, Gleicher, and Edwards, 1993; developed a model of the social-cognitively mediated approach (Pittman & D’Agostino, 1985; Pittman et al., 1985; Pittman, motivational functions of self-report in depressives’ social desirability.

Perhaps a major example of perception is the work of Weary and Marsh, Gleicher, and Edwards, 1993; developed a model of the social-cognitively mediated approach (Pittman & D’Agostino, 1985; Pittman et al., 1985; Pittman, motivational functions of self-report in depressives’ social desirability.
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CONTROL BELIEFS, DEPRESSION, AND SOCIAL INFERENCE

Over the past fifteen years or so, researchers have become increas-
ingly interested in exploring the impact of depression on various social
cognitive processes (for a recent review, see Weary & Edwards, 1994).
Much of this work has consisted of demonstrations of the existence of the
structural elements theorized (e.g., Abramson, Metalsky, & Alloy, 1989;
Abramson, Seligman, & Teasdale, 1978; Alloy, Kelly, Mineka, & Clements,
1990; Beck, 1976) to be critical antecedents of depression (e.g., depress-
genic schemata and attributional control styles) and the influence of these
elements on subsequent emotional, motivational, and cognitive pro-
cesses. Of particular importance for this chapter is research that has ex-
ained the role of depressed and nondepressed perceivers’ stylized
expectations of response-outcome contingency on the content of their
social inferences. We will now turn our attention to a brief examination of
two lines of work that have addressed such issues.

The first line of work focusing on the inferential effects of generalized
control expectations concerns depressed and nondepressed perceivers’
causal attributions for their behavioral outcomes. Although there appears
to be less consistency in the attributions of nondepressed and depressed in-
dividuals for their positive outcomes, numerous studies have demon-
strated consistent patterns of their self-attributions for negative outcomes.
Nondepressed individuals tend to ascribe their negative outcomes to inter-
nal, unstable, and controllable factors (e.g., modifiable behavioral strate-
gies, mood states). Depressed individuals, on the other hand, tend to
implicate internal, stable, and uncontrollable factors (e.g., character, disposi-
tions, native abilities) as causes of their negative outcomes (for reviews
see Anderson, 1985; Sweeney, Anderson, & Bailey, 1986; Weary & Ed-
wards, 1994). These attributional patterns of nondepressed and depressed perceivers correspond to the conceptualizations of behavioral and charac-
terological self-blame attributions first identified by Janoff-Bulman (1979)

The second body of relevant research has developed in parallel to the
psychopathology theory and research discussed above. This work, based
more on control-deprivation models of social information processing
(Pittman & D’Agostino, 1985; Pittman, 1993), stresses the potentially posi-
tive motivational functions of mild and moderate expectations of uncon-
trollability in depressives’ social inference processes.

Perhaps a major example of this approach to depression and social
perception is the work of Weary and her colleagues (for reviews see Weary,
Marsh, Gleicher, & Edwards, 1993; Weary & Gannon, 1996). They have de-
developed a model of the social-cognitive consequences of the chronic con-
CONTROL MOTIVATION, DEPRESSION

terfacts are often conditional: present (e.g., taking a different exit) or
traffic jam). Once in mind, these events have been shown to
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CONTROL MOTIVATION, DEPRESSION, AND COUNTERFACTUAL THOUGHT

Counterfactuals are often conditional statements, containing both an antecedent (e.g., taking a different exit) and a consequent (e.g., not being in a traffic jam). Once in mind, these alternative versions of past events have been shown to influence a wide range of social judgments, including attributions of causality (Wells & Gavanski, 1989), victim compensation (Miller & McFarland, 1986), suspicion (Miller, Turnbull, & McFarland, 1989), and regret (Gilovich & Medvec, 1995; Landman, 1987).

Researchers recently have begun to explore the motivational and functional implications of counterfactual thought (e.g., Johnson & Sherman, 1990; Markman, Gavanski, Sherman, & McMullen, 1993; McMullen et al., 1995; Roese, 1994; Roese & Olson, 1995c; Taylor & Pham, 1996). For instance, Markman et al. (1993) and Roese (1994) have drawn a distinction between upward (“it could have been better”) counterfactuals and downward (“it could have been worse”) counterfactuals. They also have obtained empirical evidence suggesting that upward counterfactuals can prepare one for the future, whereas downward counterfactuals can engender positive affect.

The results of several recent studies have provided some support for an empirical relationship between control motivation and counterfactual thought. Girotto, Legrenzi, and Rizzo (1991) presented participants with a scenario in which the protagonists’ drive home is interrupted by several events. The counterfactuals participants generated tended to focus on controllable rather than uncontrollable aspects of the scenario (see also N’Gbala & Branscombe, 1995, for a replication of this effect). Similarly, Markman, Gavanski, Sherman, and McMullen (1995) found that participants were more likely to make counterfactuals about controllable than uncontrollable antecedents of their performance outcomes. According to Markman et al. (1995), people may focus attention on the controllable aspects of events in an effort to instill feelings of control over both past and future outcomes.

Recent work by Roese and Olson (1995a) also has found that controllability can influence the direction of counterfactual comparison. Specifically, participants in their study made more upward counterfactuals about a story character placed in a controllable situation, but made more downward counterfactuals about the same story character placed in an uncontrollable situation. These authors reasoned that upward counterfactuals, because they serve a preparative function, are more relevant in controllable circumstances where the opportunity for future improvement is a possibility.

DEPRESSION

The results of these studies, then, have established perceived control as one determinant of the types of counterfactuals people generate. As op-
posed to these studies that examined counterfactual generation in situations where control perceptions were manipulated or temporarily aroused, the work we will be discussing here focuses on how chronic control perceptions influence the nature of counterfactual thought. Just as chronic perceptions of control loss motivate depressives to attend more to control-relevant features of social situations (Weary, Marsh, Gleicher, & Edwards, 1993), we also expect that depressed individuals will be more likely than nondepressed individuals to make counterfactuals about controllable aspects of life events in an effort to restore perceived control. In other words, we suggest that when individuals reflect back on "what could have been different" about a negative life event, the depressed individual is more likely than the nondepressed individual to focus on a controllable aspect of that event because of the former's greater need to minimize control losses and maintain and possibly expand future levels of primary control. An important implication, then, is that the relationship between depression and controllable counterfactuals should be mediated or driven by generalized perceptions of control loss. A second implication is that making counterfactuals about controllable aspects of events should be more likely to enhance the sense that one "could have" controlled an event in the past (cf. Thompson, 1981) than making counterfactuals about uncontrollable aspects.

EVENT REPEATABILITY

A potential moderator of the effects of control motivation on counterfactual thinking, as well as the effects of counterfactual thinking on perceived control, is whether one believes that the event in question might happen again in the future. In a recent study, Markman et al. (1993) found that a potentially repeatable event was more likely to engender upward counterfactual thought than a nonrepeatable event. According to these researchers, a potentially repeatable event presents one with the opportunity to improve upon the outcome in the future, and should, therefore, stimulate the generation of upward counterfactuals. On the other hand, nonrepeatable events should not engender as many upward counterfactuals because preparation for the future is largely irrelevant.

Because the potential repeatability of an event presents one with the opportunity for future improvement, we also suggest that a repeatable event affords individuals with the opportunity to satisfy their control motivations. That is, it is functional to think about how one could have controlled a repeatable event in the past because it suggests that one might be better able to control things in the future. On the other hand, because the opportunity to exercise control over the future is largely irrelevant for nonrepeatable events, it is perhaps less functional to think about how one could have controlled such an event (1983).

These notions, in turn, allow how event repeatability might mediate the effects of depression on repeatable and nonrepeatable negative life events. Earlier, we suggested that nondepressives to focusing in counterfactual thinking a should be mediated by generalization however, we also suggest that the conditions will only be seen in the case if the event is a possibility. Because the event for nonrepeatable events, one should not mediate the effects of depression in such cases. In other words, the Beck Depression Inventory (BDI) presents other than control concern on controllable aspects, the effects of counterfactuals on nonrepeatable events should be smaller. Second, because only with future opportunities to reexamine aspects should be likely to able but not for nonrepeatable events.

DEPRESSION AND COUNSELING

We conducted our first study with goals in mind: (1) To examine depressed individuals in the types of life events; (2) to examine the relationship between depressed of counterfactuals; (3) to examine types of counterfactuals on feelings of event repeatability might moderate explore these issues, we developed that allowed us to examine counseling events.

Participants in the study were psychology students at Ohio State University. From this initial pool, a random sample of students scoring 9 or above on the BDI were selected.
counterfactual generation in situations where manipulated or temporarily active depressives to attend more to events (Weary, Marsh, Gleich, & depressed individuals will be more to make counterfactuals about control to restore perceived control. In individuals reflect back on “what the depressed individual to focus on a concept of the former’s greater need to and possibly expand future levels of action, then, that the relationship counterfactuals should be mediated if control loss. A second implication controllable aspects of events should one “could have” controlled an than making counterfactuals about

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ity of an event presents one with the we also suggest that a repeatable opportunity to satisfy their control mo- nk about how one could have concl- because it suggests that one might be re. On the other hand, because the the future is largely irrelevant for s functional to think about how one could have controlled such an event in the past (cf. Silver, Boon, & Stones, 1983).

These notions, in turn, allow us to generate hypotheses regarding how event repeatability might moderate the manner in which depressed and nondepressed individuals engage in counterfactual thinking about negative life events. Earlier, we suggested that depressives may be more likely than nondepressives to focus on controllable aspects when engaging in counterfactual thinking and, furthermore, that this relationship should be mediated by generalized control loss perceptions. At this point, however, we also suggest that the mediating effects of control loss perceptions will only be seen in the case of repeatable events, where future control is a possibility. Because the opportunity for future control does not exist for nonrepeatable events, on the other hand, control loss perceptions should not mediate the effects of depression on counterfactual generation in such cases. In other words, even if depression, at least as measured by the Beck Depression Inventory (BDI; Beck, 1967), includes symptom components other than control concerns that might also lead to a relative focus on controllable aspects, the effects of depression on counterfactual generation for nonrepeatable events should not be mediated by control loss perceptions.3 Second, because only repeatable events present individuals with future opportunities to reexert control, a tendency to mutate controllable aspects should be likely to enhance control perceptions for repeatable but not for nonrepeatable events.

DEPRESSION AND COUNTERFACTUALS FOR NEGATIVE LIFE EVENTS: STUDY 1

We conducted our first study (Markman & Weary, 1996) with four goals in mind: (1) To examine differences between depressed and nondepressed individuals in the types of counterfactuals they make about negative life events; (2) to examine whether control loss perceptions mediate the relationship between depression and the generation of different types of counterfactuals; (3) to examine the subsequent effects of these different types of counterfactuals on feelings of control, and (4) to examine how repeated events might moderate all of these relationships. In order to explore these issues, we developed a relatively straightforward paradigm that allowed us to examine counterfactuals generated about real life events.

Participants in the study were selected from a pool of introductory psychology students at Ohio State University who completed the BDI. From this initial pool, a random sample of students who scored less than 6 or above 9 on the BDI were selected for participation in the experiment and
were classified as nondepressed or depressed, respectively. The final sample consisted of 60 depressed participants and 61 nondepressed participants.

After being told that the study concerned “thinking about life events,” participants were given the Edwards and Weary (1996) Perceptions of Control Scale (PCS) to complete. This scale is a 13-item measure of generalized perceived lack of control (i.e., higher scores indicate greater feelings of lack of control), and employs six response options (1 = “strongly disagree”; 6 = “strongly agree”). Examples of items include “I can do anything I set my mind to” and “I have little control over the bad things that happen to me.” Edwards and Weary (1997) found the scale to demonstrate adequate test–retest reliability over a six-week period (r = .58). As evidence for the validity of the control scale, the scale was found to correlate with measures of other constructs in a manner consistent with what would be theoretically expected for a measure of generalized perceived lack of control. In the present sample, the scale demonstrated adequate internal consistency (Cronbach’s α = .75).

After completing the PCS, participants were given a packet of instructions and questions. Upon opening the packet, half of the participants—those assigned to the repeatable event condition—were given the following instructions (see also McMullen et al., 1995):

We would like you to take a moment and recall a negative event that has happened to you in your life. The event should have the characteristics:

1. It should be a very negative event (it should have made you unhappy or upset you in some way).
2. It should involve you (events you only heard about, for example, don’t count).
3. It should have happened recently (within the last year or so).
4. It should be an event that could possibly happen to you again in the future (e.g., taking an exam).

The other half of the participants—those assigned to the nonrepeatable event condition—received the same instructions, with the exception that the event they recalled “…should be an event that will probably not happen again in the future (e.g., your only trip to a far away country).” All participants then were told to provide a written description of the event. Examples of events described in the repeatable event condition included “not studying hard enough and failing an exam” and “fighting with parents,” whereas examples of events described in the nonrepeatable event condition included “missing a final year of high school football due to an injury” and “not spending enough time with a terminally ill relative.”

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After describing the event, I thought the event was and how it happened to them on a 9-point scale of precounterfactual control. “vividly imagine” the event they following question (see Rose &

People often have thoughts like the one that you described things that, had they been differ the event you described (i.e., the event better). List as many things

Following this counterfactual rated how much control they them—this measure constituted (i.e., over the specific event that

Counterfactual statements by two independent judges. Our sistent with the way attribution the controllability dimension (e. Wortman, 1977; Weiner, 1986). If those counterfactual focused on an judge, “could have been cont be categorized as controllable. O the counterfactual focused on a trolled by the actor at that time, ble. Thus, counterfactuals that fe act (e.g., “If only I had studied (e.g., “If only I had been paying rable, whereas counterfactuals ti pects of the self (e.g., “If only I w If only it hadn’t been raining…” that, Tangney, & Gavanski, 1994

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Our prediction was that de viduals would mutate relatively pects of the events they desc interaction between level of de generated. In order to test this p ression) × 2 (Event Type: repealu Type: controllable vs. uncor
After describing the event, participants indicated how negative they thought the event was and how much control they felt they had over what happened to them on 9-point scales—the latter measure constituted an index of precounterfactual control. Participants then were told to once again “vividly imagine” the event they had described and then respond to the following question (see Roese & Olson, 1993):

People often have thoughts like “if only” or “what if” after experiences like the one that you described. In the space below, please list any things that, had they been different, could have changed the outcome of the event you described (i.e., that could have made the outcome of the event better). List as many things as come to mind.

Following this counterfactual-listing task, participants once again rated how much control they felt they had over what happened to them—this measure constituted an index of postcounterfactual control (i.e., over the specific event that they recalled).

Counterfactual statements derived from the listing task were coded by two independent judges. Our coding scheme was designed to be consistent with the way attribution theorists previously have conceptualized the controllability dimension (e.g., Anderson & Deuser, 1993; Bulman & Wortman, 1977, Weiner, 1986). The general guideline for coding was that if the counterfactual focused on an aspect of the event that, in the opinion of the judge, “could have been controlled by the actor at that time,” it should be categorized as controllable. On the other hand, if the judge deemed that the counterfactual focused on an aspect that “could not have been controlled by the actor at that time,” it should be categorized as uncontrollable. Thus, counterfactuals that focused on specific behaviors or failures to act (e.g., “If only I had studied harder...”) or transient qualities of the self (e.g., “If only I had been paying more attention...”) were coded as controllable, whereas counterfactuals that focused on chronic and enduring aspects of the self (e.g., “If only I wasn’t so stupid...”) or external forces (e.g., If only it hadn’t been raining...”) were coded as uncontrollable (Niedenthal, Tangney, & Gavanski, 1994). 5

**Counterfactuals**

Our prediction was that depressed compared to nondepressed individuals would mutate relatively more controllable than uncontrollable aspects of the events they described. Thus, we predicted a two-way interaction between level of depression and the type of counterfactual generated. In order to test this prediction, we initially performed a 2 (Depression) × 2 (Event Type: repeatable vs. nonrepeatable) × 2 (Counterfactual Type: controllable vs. uncontrollable) analysis of variance (ANOVA),
Table 1. Study 1: Number of Controllable and Uncontrollable Aspects Mutated

<table>
<thead>
<tr>
<th>Depression</th>
<th>Counterfactual type: Controllable</th>
<th>Counterfactual type: Uncontrollable</th>
</tr>
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<tbody>
<tr>
<td>Nondepressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatable event (n = 28)</td>
<td>1.64</td>
<td>1.50</td>
</tr>
<tr>
<td>Nonrepeatable event (n = 33)</td>
<td>1.64</td>
<td>1.48</td>
</tr>
<tr>
<td>Depressed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatable event (n = 32)</td>
<td>2.75</td>
<td>1.22</td>
</tr>
<tr>
<td>Nonrepeatable event (n = 28)</td>
<td>2.18</td>
<td>0.79</td>
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</tbody>
</table>

with counterfactual type serving as a within-subjects variable. Table 1 shows the number of each type of counterfactual generated by participants in all conditions.6

According to the analysis, the predicted Depression × Counterfactual Type interaction was obtained (p = .006). Planned comparisons of the means involved in this interaction revealed that depressed participants mutated more controllable aspects (M = 2.48) than did nondepressed participants (M = 1.64), but they did not differ from nondepressed participants in terms of the number of uncontrollable aspects mutated (Ms = 1.02 and 1.49, respectively). Furthermore, it appeared that only depressed participants mutated more controllable than uncontrollable aspects; nondepressed participants showed no preference for either type of counterfactual. The Depression × Event Type × Counterfactual Type interaction was not significant.

**RELATIONSHIPS BETWEEN DEPRESSION, COUNTERFACTUAL THINKING, AND PERCEIVED CONTROL**

Earlier, we predicted that event repeatability would moderate some of the relationships between depression, counterfactual thinking, and the measures of generalized and specific control perceptions. Consequently, we performed separate regression analyses on the repeatable and nonrepeatable event subsamples. For all path models, we decided that it was important to focus on the number of controllable aspects mutated relative to the number of uncontrollable aspects mutated (controllable counterfactual thought index, CCT). We reasoned that while mutating controllable aspects should enhance perceived control, mutating uncontrollable aspects should, if anything, decrease perceived control, as the latter is a particularly undesirable goal for depressed individuals. A difference score, therefore, was computed by subtracting the number of uncontrollable aspect mutations coded from the number of controllable aspect mutations coded for each judge. The difference scores from both judges then were averaged for each participant, and this average difference score constituted an index of participants' relative control over controllable aspects.

According to our a priori expectations (higher scores on the PCS items) should statistically account for depression (dummy coded as “0” for controllable counterfactual thought condition. Additionally, we posit that both repeatable and nonrepeatable counterfactual control would predict event should make control than uncontrollable aspects (Katz 1995). In turn, mutating more control should be associated with increases (i.e., increases from pre- to postevent control condition; controllable control for nonrepeatable event improvement is largely irrelevant.

**Repeatable Event Condition**

A major hypothesis, then, would mediate the relationship between depression, event control, and perceived control. For testing mediation, an analysis involving the of depressed compared to nondepressed more controllable than uncontrollable third step involved a simultaneous analysis of means on CCT. Importantly, and a significant (p < .05), whereas the significant (p > .20). This explains perceptions are the component aspects to mutate more controllable events.

The second major hypothesis was that uncontrollable aspects shot in the repeatable event condition more controllable than uncontrollable conditions (postcounterfactual) conditions the influence of precontrol
CONTROL MOTIVATION, DEPRESSION, AND COUNTERFACTUAL THOUGHT

Uncontrollable Aspects Mutated

<table>
<thead>
<tr>
<th>actual type:</th>
<th>Counterfactual type:</th>
</tr>
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<tbody>
<tr>
<td>Uncontrollable</td>
<td>Uncontrollable</td>
</tr>
<tr>
<td>4</td>
<td>1.50</td>
</tr>
<tr>
<td>4</td>
<td>1.48</td>
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<tr>
<td>5</td>
<td>1.22</td>
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<td>8</td>
<td>0.79</td>
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within-subjects variable. Table 1

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dicted Depression × Counterfac-
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able aspects mutated (Ms = 1.02)
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COUNTERFACTUAL THINKING, CONTROL

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that while mutating controllable
l, mutating uncontrollable as-
the latter is a par-

difference score, the number of uncontrollable as-
if controllable aspect mutation
from both judges then were av-
age difference score constituted

an index of participants' relative tendency to mutate controllable over un-
controllable aspects.

According to our a priori arguments, generalized control perceptions (higher scores on the PCS indicating greater lack of control perceptions) should statistically account for the relationship between level of depression (dummy coded as "0" = nondepressed, "1" = depressed) and controllable counterfactual thought (CCT) only in the repeatable event condition. Additionally, we posited that specific feelings of control over both repeatable and nonrepeatable events (i.e., greater feelings of pre-countercfactual control) would predict CCT; greater feelings of control over an event should make controllable aspects more available for mutation than uncontrollable aspects (Kahneman & Miller, 1986; Markman et al., 1995). In turn, mutating more controllable than uncontrollable aspects should be associated with increases in feelings of control over the event (i.e., increases from pre- to postcounterfactual control) only in the repeatable event condition; controllable counterfactual thought should not enhance control for nonrepeatable events because the opportunity for future improvement is largely irrelevant.

Repeatable Event Condition

A major hypothesis, then, was that generalized control loss perceptions would mediate the relationship between depression and counterfactual type for potentially repeatable events. In order to examine this hypothesis, we employed the procedure suggested by Baron and Kenny (1986) for testing mediation. An initial regression analysis indicated that depression was significantly related to higher scores on the PCS (p < .001).

Next, an analysis involving the regression of depression on CCT found that depressed compared to nondepressed individuals mutated relatively more controllable than uncontrollable aspects of the events, p = .05. The third step involved a simultaneous regression of depression and PCS scores on CCT. Importantly, and as predicted, PCS scores significantly predicted CCT (p = .02), whereas the effect of depression on CCT became non-
significant (p > .20). This analysis suggests, then, that generalized control loss perceptions are the component of depression that drives depressed indi-

The second major hypothesis was that mutating more controllable than uncontrollable aspects should enhance control perceptions, but only in the repeatable event condition. As can be seen in Figure 1, mutating more controllable than uncontrollable aspects did indeed enhance feel-
ings of (postcounterfactual) control over repeatable events, above and be-
yond the influence of precounterfactual control (p = .01).
Nonrepeatable Event Condition

Because the opportunity to satisfy one's control motivation should be lowered when thinking about nonrepeatable events, we predicted that generalized perceptions of control loss would not mediate the relationship between depression and counterfactual type for the nonrepeatable event subsample. An initial analysis indicated that depression predicted a relative tendency to mutate controllable over uncontrollable aspects ($p = .05$). On the other hand, and as depicted in Figure 1, participants who scored higher on the PCS did not mutate more controllable than uncontrollable aspects ($p > .50$). Thus, generalized control loss perceptions could not have mediated the relationship between depression and CCT in the nonrepeatable event condition.

Because nonrepeatable events do not present an opportunity to satisfy one's control motivation, we also predicted that participants in the nonrepeatable event condition would have even more controllable than uncontrol- lable over uncontrollable aspects in retrospective control over nonrepeatable event condition. The relationship between depression and PCS scores was not significant ($p > .20$), indicating a lack of correlation over the subsample.

Finally, we should note that high PCS scores and perceived uncontrollability are related to these feelings by recalling events. These participants may be engaging in counterfactual thinking when recounting events in the future.

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ne's control motivation should not mediate the relationship between the nonrepeatable event condition and depression. We predicted that controlling for the nonrepeatable event condition, depression would predict a relationship with uncontrollable aspects (\( p = .05 \)). In Figure 1, participants who scored higher on uncontrollable loss perceptions could not have controlled or CCT in the nonrepeatable event condition would not gain perceived control from mutating more controllable than uncontrollable aspects. As can be seen in Figure 1, the relationship between CCT and postcounterfactual control was nonsignificant (\( p > .20 \)), indicating that a greater tendency to mutate controllable over uncontrollable aspects did not lead to significant increases in retrospective control over nonrepeatable events.

Finally, we should note the unexpected positive relationship between high PCS scores and precounterfactual control (see Figure 1—\( p < .05 \)). While admittedly speculative, it may be that participants suffering from greater perceptions of lack of control attempted to compensate for these feelings by recalling events over which they felt they had more control. These participants may not have attempted to compensate by mutating relatively more controllable aspects, however, because the motivation to control such events in the future was irrelevant in this condition.

The results of this study demonstrated that when individuals engaged in counterfactual thought about negative life events, those who were mildly depressed were more likely to mutate controllable than uncontrollable aspects of those events. Moreover, this effect appeared attributable, in the repeatable event condition at least, to the control loss concerns that are known to characterize mildly depressed individuals. Finally, mutating more controllable than uncontrollable aspects led to enhanced beliefs that one had control over the event in the past, although this was more likely to be the case for potentially repeatable events.

As we noted earlier, however, there was a significant and positive relationship between depression and counterfactual type in the nonrepeatable event condition. Thus, there appear to be other aspects of depression above and beyond control concerns that can result in the mutation of more controllable than uncontrollable aspects. Although further research will be needed to determine exactly what these may be, one possibility is the feelings of guilt associated with depression. According to a number of researchers (e.g., Niedenthal et al., 1994; Weiner, 1986; Weiner, Graham, & Chandler, 1982; Wicker, Payne, & Morgan, 1983), feelings of guilt over negative occurrences result from attributions to personally controllable causes and self-responsibility. In our estimation, although nonrepeatable events may not present the opportunity to satisfy one's control motivation, they may still lead to the ascriptions of self-responsibility and personal controllability that engender the guilt so often experienced by depressed individuals. Driven by these feelings of guilt, depressed individuals may then focus on controllable relative to uncontrollable aspects in an effort to make amends for their past actions. As our results demonstrate, however, such thinking may not enhance perceived control when an event will not be repeated.
DEPRESSION AND COUNTERFACTUALS FOR NEGATIVE LIFE EVENTS: STUDY 2

Our first study demonstrated that chronic control loss concerns can be an important antecedent of the type of counterfactual generated and that counterfactuals can enhance perceptions of control over the past. For our next study, we decided to examine a potential moderator of the control function of counterfactual thought. Although recent work has suggested that individuals may engage in counterfactual thinking in order to satisfy particular goal states (e.g., Markman et al., 1993; Roese, 1994), none of this work has examined individual beliefs in the ability of counterfactuals to do so. In our view, individuals who possess such beliefs may derive more psychological benefits from counterfactual thought than individuals who do not. Thus, we suggest that idiosyncratic beliefs in the ability of particular types of counterfactuals to help bring about particular goal states may actually moderate the success of such counterfactuals in goal attainment (cf. Carver & Scheier, 1990; Weary & Edwards, 1996).

The specific goal state we chose to focus on in our second study was the need for meaning (Silver et al., 1983). Our interest in this variable stemmed from Thompson’s (1981) suggestion that the underlying goal of establishing retrospective control is to satisfy a need for meaning—to understand the event. In our second study, we predicted that mutating controllable relative to uncontrollable aspects of negative events would be especially likely to enhance control perceptions to the extent that one believes in the ability of counterfactuals to provide a sense of meaning or insight into these life events. Such a finding would also begin to establish an empirical relationship between the need for meaning and perceived control.

In Study 2 (Markman & Weary, 1997), participants once again recalled negative life events and made counterfactuals about them. Because control perceptions were only enhanced in the repeatable event condition of Study 1, participants were only asked to describe potentially repeatable events. Our main goal was to demonstrate the moderating effects of beliefs in the ability of counterfactuals to provide meaning on the relationship between counterfactual generation and perceived control.

Participants, preselected on the basis of their BDI scores (N = 64), were given the same cover story employed in Study 1. They then received a packet of instructions and questions and were given the same set of instructions that were used in the repeatable event condition of Study 1 (i.e., to recall a very negative event that could potentially happen again). After providing a written description of the event, participants indicated, as they did in Study 1, how negative they thought the event was and how much control they felt they had over what happened to them (precounterfactual control). Participants then performed the same counterfactual-listing exercise that was used in Study 1.

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After listing their counterfactuals, participants were asked how much control they felt they had over the counterfactual control. Finally, to the question “To what extent do counterfactuals provide you with a sense of ‘me’ that have occurred to you in the great extent of scale.” This measure in the ability of counterfactuals derived from the listing manner as before.

For our primary analysis, specified interrelationships among pre- to postcounterfactual control main effect and the Meaning predict changes in perceived control independently of control (p = .05). Beyond the well (p = .04), showing once again controllable over uncontrollable as control. On the other hand, mean perceived control (p > .50). Rather relationship between counterfactuals and meaningfulness (Weary & Kenny, 1986).

To clarify the meaning of the results, the median into those scoring performed separate regression a similar procedure, see Andersen that for participants who had have more controllable than uncontrollable control (p < .001). On the other hand, uncontrollable aspects did for participants who had relative to this analysis suggests that that one believes that counterfactual meaning or insight into these ev

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The results of two studies depressed and nondepressed inferences in response to negative life, likely than nondepressed partic
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AFTER LISTING THEIR COUNTERFACTUALS, PARTICIPANTS ONCE AGAIN RATED
HOW MUCH CONTROL THEY FELT THEY HAD OVER WHAT HAPPENED TO THEM (POST-
COUNTERFACTUAL CONTROL). FINALLY, AND IMPORTANTLY, PARTICIPANTS RESPONDED
TO THE QUESTION, "TO WHAT EXTENT DOES ENGAGING IN ‘IF ONLY’ THINKING HELP
PROVIDE YOU WITH A SENSE OF ‘MEANING’ OR ‘INSIGHT’ INTO NEGATIVE EVENTS
THAT HAVE OCCURRED TO YOU IN THE PAST?" ON A 1 (NOT TO ANY EXTENT) TO 9 (TO
A GREAT EXTENT) SCALE. THIS MEASURE constituted an index of individual be-
liefs in the ability of counterfactuals to provide meaning. The counterfac-
tuals derived from the listing exercise were later coded in the same
manner as before.

For our primary analysis, we proposed a regression model that
specified interrelationships among CCT, beliefs in meaning, and changes in pre-
to postcounterfactual control. Our major hypothesis was that the
CCT main effect and the Meaning × CCT interaction would independently
predict increases in perceived control. As predicted, the Meaning × CCT
interaction independently predicted increases in pre- to postcounterfactual
control (p = .05). Beyond this, the CCT main effect was significant as
well (p = .04), showing once again that a relative tendency to mutate con-
trollable over uncontrollable aspects enhances feelings of retrospective
control. On the other hand, meaning, by itself, did not predict increases in
perceived control (p > .50). Rather, it appears that meaning moderated the
relationship between counterfactual type and perceived control (Baron
& Kenny, 1986).

To clarify the meaning of the interaction, we divided our participants
at the median into those scoring high and low on beliefs in meaning and
performed separate regression analyses for each set of participants (for a
similar procedure, see Andersen & Schwartz, 1992). The analysis showed
that for participants who had relatively high beliefs in meaning, mutating
more controllable than uncontrollable aspects predicted increases in per-
ceived control (p < .001). On the other hand, mutating more controllable
than uncontrollable aspects did not predict increases in perceived control
for participants who had relatively low beliefs in meaning (p = .30). Thus,
this analysis suggests that mutating more controllable than uncontrollable
aspects enhances perceived control over negative life events to the extent
that one believes that counterfactual thinking can provide a sense of
meaning or insight into these events.

IMPLICATIONS

The results of two studies reveal differences in the way moderately
depressed and nondepressed individuals generate counterfactual alter-
atives in response to negative life events. Depressed participants were more
likely than nondepressed participants to generate counterfactuals that fo-
cused on more of the controllable than uncontrollable aspects of such negative events. Moreover, mediational analyses suggested that this greater relative tendency was driven by general perceptions of control loss in the case of potentially repeatable events. The results of both studies also indicated that mutating more controllable than uncontrollable aspects was associated with increases in perceived control over repeatable events. In our view, the results of these two studies suggest the operation of a compensatory mechanism (cf. Thompson, 1993)—that depressed individuals may attempt to compensate for their general perceptions of control loss by enhancing their perceptions of control over specific events through counterfactual thought.

To the best of our knowledge, the current studies are the first in the published literature to document individual differences in counterfactual thinking as a function of depression. In a related series of studies, Roese and Olson (1993) focused on individual differences in counterfactual thinking and a component of depression—self-esteem. In their work, participants with either high (HSEs) or low (LSEs) self-esteem were asked to imagine themselves performing behaviors with another person that resulted in either a successful outcome or failure. The counterfactuals participants generated about these outcomes were then coded as focusing on either actions taken by the self or actions taken by the other. Relevant to the present work, the results indicated that following failure, LSEs were more likely than HSEs to mutate their own actions. Although Roese and Olson (1993) were concerned with self- versus other-referent counterfactuals as opposed to controllability per se, their finding that LSEs were more likely to mutate their own (controllable) actions than the actions of another (uncontrollable) is certainly consistent with our results. These authors also went on to suggest a number of potential explanations for their findings, including differences between HSEs and LSEs in terms of their self-enhancement and self-presentation needs, and differences between these two groups in terms of the relative accessibility of positive versus negative self-schematic information. In general, future research might also examine the extent to which these aspects of self-esteem moderate or mediate the relationship between depression and counterfactual thinking.

Reconciling Our Findings with Those of Learned Helplessness Theory

The finding that depressed individuals mutated more controllable than uncontrollable aspects may seem surprising in light of Janoff-Bulman’s (1979) finding that depressed individuals tend to engage in characterological self-blame—a modifiable (and thus uncontrollable) component of learned helplessness (Abramson 1985; Seligman, 1975) suggests that blaming the findings of learned helplessness may blame uncontrollable factors. There May Be No Contradiction

It may be that direct causal attribution different level of analysis than the catastrophizing attribution. For example, when moderately catastrophic attribution, they are empirically that they could not or did not have control over the event “It was my own stupidity statement “If I only had done X controllable counterfactual), cast the former type of answer, when individual on the latter. The depression answers as contradictory.

Causal Attribution and Undone

Although past research has shown that thinking in influencing causal attributions (Wells & Gavanski, 1989), recent distinctions can also be made. Davis, Lehman, Silver, Worrall, and Branscombe (1995) have suggested that whereby possible causes are identified, the extent to which they were necessary in the outcome, whereas counterfactuals are evaluated in terms of whether they have been undone or avoided. The empirical support for this distinction is profound. In the case of a child’s sudden infant death (Rosen et al., 1995). According to their finding, they caused the death, the vast majority of studies have found that if they had done something differently the large body of findings that supports the present studies, participants w
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uncontrollable aspects of such analyses suggested that this general perceptions of control loss. The results of both studies also than uncontrollable aspects; control over repeatable events. suggest the operation of a context—i.e., that depressed individuals' perceptions of control loss by specific events through count-

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rational-esteem in their work, low (LSEs) self-esteem were behaviors with another person failure. The counterfactual outcomes were then coded as fol-

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characterological self-blame—a form of self-blame that focuses on un-

modifiable (and thus uncontrollable) aspects of the self. Similarly, learned helplessness theory (Abramson et al., 1978; Alloy et al., 1990; Anderson, 1985; Seligman, 1975) suggests that depressed individuals will tend to as-

cribe blame to uncontrollable factors. We suggest three ways of reconciling the findings of learned helplessness theory with our own.

There May Be No Contradiction

It may be that direct causal questioning focuses the individual on a different level of analysis than asking "what could have been different." For example, when moderately depressed individuals make a characterological attribution, they are emphasizing that it is something about themselves that they could not or did not control, not that other people could not have controlled it. Thus, they may readily agree with both the statement "It was my own stupidity" (a characterological attribution) and the statement "If only I had done X, the event would have been avoided" (a uncontrollable counterfactual); causal questioning focuses the individual on the former type of answer, whereas counterfactual questioning focuses the individual on the latter. The depressed individual would not see these two answers as contradictory.

Causal Attribution and Undoing May Be Independent Processes

Although past research has implicated the role of counterfactual thinking in influencing causal ascriptions (e.g., Hilton, 1990; Lipe, 1991; Wells & Gavanski, 1989), recent theorizing has suggested that important distinctions can also be made between the two processes. For instance, Davis, Lehman, Silver, Wortman, and Ellard (1996) and N’Gbara and Branscombe (1995) have suggested that causal attribution is a process whereby possible causes are identified and evaluated with reference to the extent to which they were necessary and/or sufficient to produce a given outcome, whereas counterfactual thinking is a process whereby antecedents are evaluated in terms of the relative ease with which they could have been undone or avoided (see also Mandel and Lehman, 1996). Empirical support for this distinction comes from a study of parents who had lost a child to sudden infant death syndrome conducted by Davis et al. (1995). According to their findings, although most parents did not feel that they caused the death, the vast majority did feel that the death could have been avoided if they had done something differently.

In turn, this distinction may help us to accommodate our results with the large body of findings that support learned helplessness theory. In the present studies, participants were asked to think about "what might have
been different” about the events they described. In our view, the greater control loss perceptions of our depressed compared to nondepressed participants resulted in their greater attention to controllable features of the described events. Since controllable features were by their nature avoidable, they were easier to mutate. When depressives are asked to attribute cause for a particular event, they may go through an entirely different cognitive process, i.e., one in which they evaluate the necessity and sufficiency of various possible causes. In so doing, uncontrollable antecedents may be afforded more causal weight by depressed than nondepressed individuals because they are evaluated as more necessary and/or sufficient for producing a particular outcome.

Causal Attribution versus Undoing as Passive versus Problem-Solving Processes

Causal attribution, or focusing on reasons, is often conceptualized as a posthoc analysis of what happened before, during, and after an event for the purpose of identifying cause–effect covariances. When attributing cause, depressed individuals often may rely on what they know about themselves and the world around them—negative cognitive schemata (Andersen, Spielman, & Bargh, 1992; Beck, 1967)—to come to the conclusion that causality rests with something unmodifiable about themselves. On the other hand, undoing may be more of a problem-solving oriented process (Lazarus & Folkman, 1984) that leads the individual to think about what could have been different about the event. Undoing the various features of an event may allow the individual to view the event from different perspectives and develop strategies for dealing with a similar event in the future. Consistent with this notion, Pennebaker and Beall (1986) find that the process of writing and organizing one’s thoughts about a traumatic experience is more likely to produce positive health benefits than is merely focusing on the facts of the experience. In our view, the problem-solving nature of the undoing process may give depressed individuals a greater opportunity to satisfy their secondary control motivations than might the reasons-oriented nature of the causal attribution process (cf. Wilson & Schooler, 1991). It may be for this reason, then, that depressed individuals show more of a tendency to focus on controllable than uncontrollable aspects when they undo an event than when they ascribe cause for an event.

Depressed compared to nondepressed individuals also have been found to ruminate and self-focus in reaction to negative outcomes (e.g., Nolen-Hoeksema, 1991; Pyszczynski & Greenberg, 1987; Wood, Saltzberg, Neale, Stone, & Rachmiel, 1990). Nolen-Hoeksema and her colleagues (e.g., Lyubomirsky & Nolen-Hoeksema, 1993, 1995; Morrow & Nolen-Hoeksema, 1990) have described ruminative responses to depressed mood as thoughts and behaviors depressive symptoms and on the toms. In a recent set of studies, Lj induced some depressed individu on their current feeling state trect themselves from their cu findings, depressed individuals i tic attributions for hypothetical generated poorer-quality solutio viduals who first distracted then mination also appears to be a p inhibits problem-focused coping individuals to believe that their i really are (Lyubomirsky & Nol about the negative aspects of a f ic orientation,” a conc ent, or future state that inhibits th the problem.

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WHY DO DEPRESSIONS S

The results of the present mildly depressed individuals negative life events by mutating pects, then why do they suffer nondepressed individuals? Me individuals on alternative solu do depressed individuals sufe ability relative to nondepressi ous, 1993; Marx, Williams, & C Although we can only si possiblities. First, although de
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mood as thoughts and behaviors that focus individuals' attention on their depressive symptoms and on the causes and consequences of those symptoms. In a recent set of studies, Lyubomirsky and Nolen-Hoeksema (1995) induced some depressed individuals to ruminate by focusing their attention on their current feeling states, and other depressed individuals to distract themselves from their current feeling states. According to their findings, depressed individuals induced to ruminate gave more pessimistic attributions for hypothetical events and interpersonal problems, and generated poorer-quality solutions to these problems than depressed individuals who first distracted themselves from their current mood. Thus, rumination also appears to be a passive reaction to negative outcomes that inhibits problem-focused coping and, indeed, may also lead depressed individuals to believe that their problems are less controllable than they really are (Lyubomirsky & Nolen-Hoeksema, 1995). Similarly, brooding about the negative aspects of a problem corresponds to Kuhl's (1981) notion of "state orientation," a condition of perseveration on one's past, present, or future state that inhibits one from taking direct action to deal with the problem.

It is quite reasonable to characterize counterfactual undoing as a form of rumination (cf. Martin & Tesser, 1989; Tait & Silver, 1989). Of all the various forms of ruminative thought, however, counterfactual thought—especially controllable counterfactual thought—may be the most functional. Indeed, focusing individuals on what they "could have done differently" should be more likely to enhance control perceptions than focusing them on their feelings. Thus, just as rumination corresponds to state orientation, controllable counterfactual thought may more closely correspond to "action orientation," described by Kuhl (1981) as a tendency to focus on alternative plans of action for the purposes of achieving a goal.

WHY DO DEPRESIVES STILL SUFFER FROM CONTROL LOSS PERCEPTIONS?

The results of the present studies raise an interesting question: If mildly depressed individuals routinely restore perceived control over negative life events by mutating more controllable than uncontrollable aspects, then why do they suffer from control loss perceptions relative to nondepressed individuals? Moreover, if counterfactual thinking focuses individuals on alternative solutions to problematic situations, then why do depressed individuals suffer from marked deficits in problem-solving ability relative to nondepressed individuals (e.g., Conway & Giannopoulous, 1993; Marx, Williams, & Claridge, 1992)?

Although we can only speculate at this point, we suggest several possibilities. First, although depressed individuals may be capable of en-
hancing perceived control over a number of specific life events, they simply may be bombard by too many seemingly aversive and uncontrollable events to be able to restore any generalized feelings of control. Second, although depressed individuals may feel like they have control over an impending event, they may experience "breakdowns" in the implementation of behavioral strategies designed to deal with a recurrence of the event. As recent reviews by Gollwitzer (1990, 1993) suggest, depressed affect and ruminative or self-focused thought can sap the cognitive resources needed for the effective implementation of goal intentions. Likewise, Lyubomirsky and Nolen-Hoeksema (1995) suggest that ruminating on one's depressed mood can prevent individuals from effectively carrying out problem solutions by sapping their energy and motivation and impairing their concentration. Additionally, depressed individuals have been shown to be less likely or willing to take actions that might expose them to social risk (Pietromonaco & Markus, 1985; Pietromonaco & Rook, 1987). Also, Beck, Rush, Shaw, and Emery (1979) have suggested that depressed individuals' greater requirement for certainty of the correctness of a decision before committing to it contributes to their failure to make the appropriate response (Coyne, Aldwin, & Lazarus, 1981; Miller & Lewis, 1977). Thus, although depressed individuals may be able to develop constructive thoughts and strategies, their difficulties in converting those thoughts into action may leave them feeling as frustrated and control deprived as ever. Clearly, future research would benefit from an analysis of the action phases ( Heckhausen, 1991) most influenced by depressives' counterfactual thought. It may well be that the restoration of secondary control engendered by depressives' counterfactual thought influences primarily the predecisional and postactional phases, but has relatively little impact on the actional phase. In a similar vein, it also would be useful to examine how feelings of self-efficacy (i.e., expectations of being able to successfully implement specific courses of action— Bandura, 1996) might moderate the relationship between depressive controllable counterfactual thought and control perceptions. For instance, controllable counterfactual thought may only impact the actional phase when self-efficacy expectations are high (cf. Sanna, 1997).

Finally, a third possibility is that depressed individuals do not always mutate controllable over uncontrollable aspects spontaneously. Rather, the initial reaction to a negative outcome may be to ruminate about one's depressed mood, as well as the causes and consequences of that mood. However, it should be noted that the simple instruction used in the present studies to "think about how the event could have been different" was enough to engage depressed individuals in a control restoration process. Thus, therapies designed to distract individuals from their moods by engaging them in counterfactual-listing exercises might be beneficial, at least on a short-term basis, for restoring control perceptions.
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IMPLICATIONS FOR NEGATIVE AFFECT, SELF-BLAME, AND SENSE-MAKING

Elsewhere in the literature, we (Markman et al., 1993; McMullen et al., 1995) have characterized upward counterfactual thinking as holding psychological "trade-offs" for the individual—upward counterfactuals prepare one for the future, but this preparative value may obtain at the expense of engendering "unnecessary negative affect" (Sherman & McCon-
nell, 1995). In a similar vein, although depressives may experience a
"boost" in control perceptions after mutating controllable aspects of nega-
tive events, this focus on controllable aspects may also lead depressives to
blame themselves, perhaps unduly so, for failures or negative outcomes.
In fact, recent research by Davis et al. (1996) suggests that the more people
believe that they could have avoided a traumatic life event, the more they
blame themselves for the event. In turn, these feelings of self-blame will
engender negative affect. In the terms of the present research, then, we sug-
gest that the depressogenic tendency to focus on controllable aspects may
actually be a major source of the feelings of self-blame, guilt, and negative
affect that characterize the depressed individual.

Study 2 suggested a potential moderator of the relationship between
counterfactual thinking and perceived control—beliefs that counterfactu-
can provide a sense of meaning and insight into negative events. Spec-
fically, participants who mutated more controllable than uncontrollable
aspects experienced increases in perceived control to the extent that they
believed that counterfactuals provide them with a sense of meaning and
insight; this finding also established an empirical relationship between the
need for meaning and perceived control. Participants who did not possess
such beliefs, on the other hand, did not experience gains in perceived con-
control from mutating more controllable than uncontrollable aspects. Relat-
edly, Davis and Lehman (1995) have suggested that the search for meaning
may be an important goal of counterfactual thinking. In a set of studies ex-
amining victims of traumatic events, Davis, Lehman, and their colleagues
(Davis et al., 1995; Davis et al., 1996) have documented the pervasive ten-
dency to generate counterfactuals about extremely negative events that
are very unlikely to recur and, thus, are bereft of any future control con-
cerns. According to these researchers, individuals possess implicit or ex-
plicit expectations or assumptions regarding their daily life events. When
a negative outcome shatters their implicit or explicit assumptions, how-
ever, individuals then become motivated to find meaning in the traumatic
event, and counterfactual thinking may be one way they attempt to do
this. In general, then, the relationship between the need for meaning and
counterfactual thinking would seem to be an important area for future re-
search to explore, as sense-making may be one of the overarching motiva-
tions behind counterfactual thinking.
Before concluding, we should note that our results may well not be specific to individuals experiencing mild and moderate levels of depression. Indeed, the specific component of depression in which we were interested, control loss perceptions, also is known to be a feature of anxiety disorders (Alloy et al., 1990; Garber, Miller, & Abramson, 1980; Marsh & Weary, 1994). Just as we have shown that the relationship between level of depressive symptomatology and type of counterfactual thought is mediated by control loss perceptions, we would expect future research to demonstrate that they also mediate the relationship between the level of anxiety and counterfactual type.

CONCLUSION

In conclusion, the present studies support the notion that depressed compared to nondepressed persons are more likely to mutate controllable than uncontrollable aspects of life events in an effort to restore generalized perceptions of control loss. Moreover, it appears that mutating more controllable than uncontrollable aspects of negative life events enhances feelings of control over these events, particularly if they are repeatable. In general, these results represent an initial step toward describing the manner in which depressed persons engage in counterfactual thinking about negative life events, as well as the manner in which perceived control can be attained through such counterfactual thought. We believe that a further integration of research on depressive symptomatology, counterfactual thinking, and action control will be extremely beneficial for the advancement of theory in all three domains. In turn, such advancements also may increase the potential for clinical applications.

NOTES

1. One caveat we should mention, however, is that individuals who are severely depressed might have low motivation to make counterfactuals about controllable aspects. At extreme levels of depression, individuals' general perceptions of control may be so low that they would be unlikely to believe that there is anything they can do to control their outcomes (see Marsh & Weary, 1989). Such extreme levels of uncontrollability could be expected to result in a helplessness pattern of behavior (i.e., passivity and withdrawal) rather than the active attempts to regain control that we expected to be demonstrated by the mildly depressed participants in the present studies.

2. We would not want to suggest, however, that negative and nonrepeatable events never result in the generation of upward counterfactuals. For instance, Davis, Lehman, Wortman, Silver, and Thompson (1995) found that people suffering the traumatic loss of a loved one—a nonrepeatable event—generated a great many upward counterfactuals. In our view, the strong degree of personal and emotional involvement in these events and

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the absence of plausible downward the generation of upward counterf
3. In light of the possibility that compr might also lead to a focus on contro
dictions regarding how event repeat pression and the content of counter
4. The BDI was readministered to part completed all of the experimental i
ained in their appropriate cate
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5. Preliminary analyses revealed no di
5 in terms of how negatively 7.36, respectively, or in terms of ho
over the event (Ms = 6.20 and 5.72, r
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6. There was no overall effect of depre
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participants, overall, did mutate m
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Markman et al., 1995; Ng'Gbala & B
son, 1995a).
7. In order to provide evidence of medi
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9. Meaning and CCT were not signifi
10. This insightful possibility was sug

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We thank C. R. Snyder, M. I.
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at our results may well not be the moderate levels of depression in which we were interested to be a feature of anxiety and emotion. Marsh & Emery (1980) studied the relationship between level of counterfactual thought and the absence of plausible downward counterfactual alternatives overwhelmingly favor the generation of upward counterfactuals under such circumstances.

3. In light of the possibility that components of depression unrelated to control concern might also lead to a focus on controllable aspects, we decided not to make any firm predictions regarding how event repeatability might moderate the relationship between depression and the content of counterfactual thought.

4. The BDI was readministered to participants at the end of the experiment, after they had completed all of the experimental materials. Only those participants whose scores remained in their appropriate category were included in the final analyses. Participants who changed category were excluded from the sample because they may have been experiencing a transient mood state.

5. Preliminary analyses revealed no differences between depressed and nondepressed participants in terms of how negatively they rated the events they described (Ms = 7.54 and 7.36, respectively), or in terms of how much precounterfactual control they felt they had over the events (Ms = 5.97 and 6.20, respectively). Additionally, there were no differences between repeatable and nonrepeatable events in terms of how negatively participants rated the events they described (Ms = 7.41 and 7.50, respectively), or in terms of how much pre-counterfactual control they felt they had over the events (Ms = 6.11 and 5.81, respectively). In general, there were no differences between these two groups in terms of the context of negative life events they chose to describe—academic, work, interpersonal, health, or other.

6. There was no overall effect of depression or repeatability on the sheer number of counterfactuals generated, and the interaction between these factors also was not significant. Participants, overall, did mutate more controllable (M = 2.06) than uncontrollable aspects (M = 1.26), replicating previous findings (Davis et al., 1995; Girotto et al., 1991; Markman et al., 1995; N'Gala & Branscombe, 1995; Niedenthal et al., 1994; Roese & Olson, 1995a).

7. In order to provide evidence of mediation by employing this procedure, it is necessary to demonstrate three patterns of relationships: (1) the predictor (depression) and the mediator (PCS) should be related; (2) the predictor and mediator should be independently related to the criterion (CCT); and (3) the effects of the predictor on the criterion should become nonsignificant when the effects of the mediator are controlled.

8. Once again, there were no differences between depressed and nondepressed participants in terms of how negatively they rated the event, how much control they felt they had over the events, or the general context of the events they chose to describe. Additionally, there were no differences between depressed and nondepressed participants in terms of their beliefs in meaning (Ms = 5.99 and 5.62, respectively). In a replication of Study 1, an ANOVA revealed a Depression x Counterfactual Type interaction—depressed participants mutated more controllable aspects (M = 2.34) than did nondepressed participants (M = 1.43), and somewhat fewer uncontrollable aspects (M = 1.22) than did nondepressed participants (M = 1.67).

9. Meaning and CCT were not significantly related to one another (p > .10).

10. This insightful possibility was suggested by an anonymous reviewer of the Markman and Weary (1996) paper.

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KEITH D. MARKMAN and GIFFORD WEARY


CONTROL MOTIVATION, DEPRESSION, AND COUNTERFACTUAL THOUGHT


In the last three decades, a psychological inquiry has emerged to study the relationship between control and human motivation. Essentially, the concept of control affects human motivation, attention, and behavior. Of considerable interest, these studies have shown that control is not just a passive state but an active process that can significantly influence psychological well-being.

Of particular interest is the role of control in our ability to cope with stress and challenge. Studies have shown that individuals who maintain a strong sense of control are better able to manage stress and maintain a positive outlook. Conversely, those with a weaker sense of control are more likely to experience distress and negative outcomes.

Moreover, research has indicated that control is not a static quality but a dynamic process that can be influenced by our experiences and actions. This highlights the importance of actively shaping our perceptions of control and developing strategies to enhance our sense of control over our lives.

In conclusion, the study of control and its role in psychological well-being and motivation is a vital area of research. Understanding the complexities of control and how it can be cultivated and leveraged can have significant implications for individual well-being and collective success.